REMARKS:

Claims 12-15 and 26-27

Claims 12-15 and 26-27 have been objected to under 37 CFR 1.75(c) as being of improper dependent form for failing to further limit the subject matter of a previous claim.

Claims 12-15 and 26-27 have each been amended in a manner believed to obviate the objection. Withdrawal of the objection is respectfully requested.

Claims 2-3, 7, 9-15, 17-18, 23-27 have been objected due to informalities.

Claims 2-3, 7, 9-15, 17-18, 23-27 have each been amended in a manner believed to obviate the objection. Withdrawal of the objection is respectfully requested.

Claims 1, 9-11, 14-16, 23-25, 27

Claims 1, 9-11, 14-16, 23-25 and 27 have been rejected under 35 USC 103(a) as being anticipated by Pinarbasi (US6460243) in view of Gill (US6219208).

Submitted in the prior response dated March 19, 2007 was a declaration under 37 CFR 1.131 establishing invention of the subject matter of rejected claims 1-3, 7, 12-13, 16-18 and 26 prior to the effective 35 USC 102(a) date of Pinarbasi (Oct. 8, 2002). Per MPEP 715.02, Applicants may overcome a 35 U.S.C. 103 rejection based on a combination of references by showing completion of the invention by applicant prior to the effective date of any of the references; applicant need not antedate the reference with the earliest filing date.

In paragraph 7A of the present Office Action, the Examiner indicates that independent claims 1 and 16 remain rejected. Applicant respectfully disagrees, and asserts that the 37 CFR 1.131 declaration overcomes the rejection of independent claims 1 and 16, as the subject matter of claims 1 and 16 predates the reference. This is so regardless of the status of their dependent claims.

Therefore, Applicants respectfully request that the Examiner withdraw the rejection of claims 1 and 16 based on Pinarbasi.

Regarding claim 9, the claim has been amended in a manner believed to obviate the rejection. Particularly, claim 9 now requires hard bias layers positioned below the compression layers, and an electrically insulative layer positioned between each hard bias layer and the sensor. Support for this amendment is found in Figs. 7 and 8 of the present application. The particular combination of features claimed is not found in nor suggested by the art of record. Therefore, by virtue of the amendment, claim 9 is believed to be allowable.

Regarding claim 10, the claim has been amended in a manner believed to obviate the rejection. Particularly, claim 10 now requires shield layers positioned above and below the sensor, and at least one electrically insulative layer positioned between each of the compression layers and the sensor and one of the shields for preventing conduction of electricity through the compression layers from one shield layer to the other shield layer. Support for this amendment is found in Figs. 7-11 of the present application. The particular combination of features claimed is not found in nor suggested by the art of record. Therefore, by virtue of the amendment, claim 10 is believed to be allowable.

Regarding claim 11, the claim has been amended in a manner believed to obviate the rejection. Particularly, claim 11 now requires shield layers positioned above and below the sensor, and at least one electrically insulative layer positioned between each of the compression layers and the sensor and one of the shields for preventing conduction of electricity through the compression layers from the sensor to one of the shield layers. Support for this amendment is found in Figs. 7-11 of the present application. The particular combination of features claimed is not found in nor suggested by the art of record. Therefore, by virtue of the amendment, claim 11 is believed to be allowable.

Claim 14 has been canceled.

Regarding claim 15, the claim has been amended in a manner believed to obviate the rejection. Particularly, claim 15 now requires wherein the head is a tunnel valve sensor, and further comprising a spacer layer formed of a barrier material. Support for this amendment is found on p. 23, line 16 of the present application. The particular combination of features claimed is not found in nor suggested by the art of record. Therefore, by virtue of the amendment, claim 15 is believed to be allowable.

Regarding claim 23, the claim has been amended in a manner believed to obviate the rejection. Particularly, claim 23 now requires hard bias layers positioned below the compression layers, and an electrically insulative layer positioned between each hard bias layer and the sensor. Support for this amendment is found in Figs. 7 and 8 of the present application. The particular combination of features claimed is not found in nor suggested by the art of record. Therefore, by virtue of the amendment, claim 23 is believed to be allowable.

Regarding claim 24, the claim has been amended in a manner believed to obviate the rejection. Particularly, claim 24 now requires shield layers positioned above and below the sensor, and at least one electrically insulative layer positioned between each of the compression layers and the sensor and one of the shields for preventing conduction of electricity through the compression layers from one shield layer to the other shield layer. Support for this amendment is found in Figs. 7-11 of the present application. The particular combination of features claimed is not found in nor suggested by the art of record. Therefore, by virtue of the amendment, claim 24 is believed to be allowable.

Regarding claim 25, the claim has been amended in a manner believed to obviate the rejection. Particularly, claim 25 now requires shield layers positioned above

and below the sensor, and at least one electrically insulative layer positioned between each of the compression layers and the sensor and one of the shields for preventing conduction of electricity through the compression layers from the sensor to one of the shield layers. Support for this amendment is found in Figs. 7-11 of the present application. The particular combination of features claimed is not found in nor suggested by the art of record. Therefore, by virtue of the amendment, claim 25 is believed to be allowable.

Regarding claim 27, the claim has been amended in a manner believed to obviate the rejection. Particularly, claim 27 now requires wherein the head is a tunnel valve sensor, and further comprising a spacer layer formed of a barrier material. Support for this amendment is found on p. 23, line 16 of the present application. The particular combination of features claimed is not found in nor suggested by the art of record. Therefore, by virtue of the amendment, claim 27 is believed to be allowable.

The analysis of obviousness was set forth in *Graham v. John Deere*, 383 U.S. 1, 148 USPQ 459 (1966). In order to establish a *prima facie* case of obviousness, three basic criteria must be met:

> First, there must be some *suggestion or motivation*, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the teachings of the references. Second, there must be a *reasonable expectation of success*. Finally, the prior art reference or combined references must teach or suggest *all the claim limitations*. *The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art*, and not based on applicant's disclosure (*In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991; emphasis added).

Applicant respectfully asserts that the rejection of claims 9-11, 14-15, 23-25 and 27 violates the *Graham* test.

Regarding the first element of the *Graham* test, a *prima facie* case of obviousness may also be rebutted by showing that the art, in any material respect, teaches away from the claimed invention. *In re Geisler*, 116 F.3d 1465, 1471, 43 USPQ2d 1362, 1366 (Fed. Cir. 1997). In the instant case, Pinarbasi indicates that high stress layers cause the lead layers to separate from the sensor, causing an open circuit that destroys the read head. See Pinarbasi col. 2, lines 44-49 and 59-61. Clearly, no one would want the read head to be destroyed. Accordingly, applying the rule of *In re Geisler*, it is clear that Pinarbasi teaches away from using a compression layer *in a material way*. Thus, the rejection based on Pinarbasi violates the rule of *In re Geisler*.

Nor can it be said that the references would suggest the invention as a whole to those of ordinary skill at the time the invention was made, particularly where the invention requires compression layers providing compressive stress to the sensor. Any assertion that the references suggest a structure having all of the claim limitations would be predicated on impermissible hindsight reconstruction based on Applicant's disclosure. The patent examination rules require that the content of the prior art is determined at the time the invention was made. The requirement "at the time the invention was made" is to avoid impermissible hindsight. Consider the following quote:

> "It is difficult but necessary that the decisionmaker forget what he or she has been taught . . . about the claimed invention and cast the mind back to the time the invention was made (often as here many years), to occupy the mind of one skilled in the art who is presented only with the references, and who is normally guided by the then-accepted wisdom in the art." *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303, 313 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984).

In the instant case, those skilled in the art at the time the present invention was made did not recognize the importance of the effect of a compression layer on an AP pinned layer structure, as required by the claimed invention. It was this insight that helped the inventor conceive of the claimed invention which overcomes the deficiencies in the prior art. "Because that insight was contrary to the understandings and expectations of

the art, the structure effectuating it would not have been obvious to those skilled in the art." *Schenck v. Nortron Corp.*, 713 F.2d at 785, 218 USPQ at 700 (citations omitted).

As evidence that Applicant's insight was contrary to the understandings and expectations of the art, the Examiner is directed to Pinarbasi col. 2, lines 59-61 and 64-65. As noted there, layers of high stress are identified as destroying entire read heads. Again, no one skilled in the art wants to risk destruction of the head.

As further evidence that Applicant's insight was contrary to the understandings and expectations of the art, Applicant uses such a layer to actually induce compressive stress, in direct contravention of the teaching of Pinarbasi.

Accordingly, per the rule of *Schenck, supra*, because Applicant's insight was contrary to the understandings and expectations of the art, the claimed structure effectuating it would not have been obvious to those skilled in the art.

Because the *Graham* test is not met, allowance of claims 9-11, 14-15, 23-25 and 27 is respectfully requested.

Claims 1-3, 7, 9-18, 23-27

Claims 1-3, 7, 9-18 and 23-27 have been rejected under 35 USC 103(a) as being anticipated by Kanno (US6359760) in view of Gill (US6219208).

Claim 1 has been amended in a manner believed to obviate the rejection. Particularly, claim 1 now requires a pair of compression layers positioned towards opposite track edges of the sensor, the compression layers providing compressive stress to the sensor, the compression layers enhancing the AP pinning of the pinned layers of the AP pinned layer structure. The particular combination of features claimed is not found in nor suggested by the art of record. Therefore, by virtue of the amendment, claim 1 is believed to be allowable.

Claims 2-3, 7 and 9-15 depend from claim 1, and therefore incorporate the limitations of claim 1. Claim 1 is believed to be allowable over the combination of Kanno and Gill, as the combination of art fails to teach or suggest all limitations of claim 1, particularly as amended. Accordingly, claims 2-3, 7 and 9-15 are believed to be

allowable over the combination of art proposed in the rejection. If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

Claim 16 has been amended in a manner believed to obviate the rejection. Particularly, claim 16 now requires an electrically insulating layer positioned between the sensor and each compression layer. The particular combination of features claimed is not found in nor suggested by the art of record. Therefore, by virtue of the amendment, claim 16 is believed to be allowable.

Claims 17-18 and 23-27 depend from claim 1, and therefore incorporate the limitations of claim 1. Claim 1 is believed to be allowable over the combination of Kanno and Gill, as the combination of art fails to teach or suggest all limitations of claim 1, particularly as amended. Accordingly, claims 2-3, 7 and 9-15 are believed to be allowable over the combination of art proposed in the rejection. If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

Applicant also respectfully asserts that the rejection of 1-3, 7, 9-18 and 23-27 violates the *Graham* test.

Regarding the first element of the *Graham* test, a *prima facie* case of obviousness may also be rebutted by showing that the art, in any material respect, teaches away from the claimed invention. *In re Geisler*, 116 F.3d 1465, 1471, 43 USPQ2d 1362, 1366 (Fed. Cir. 1997). In the instant case, Pinarbasi indicates that high stress layers cause the lead layers to separate from the sensor, causing an open circuit that destroys the read head. See Pinarbasi col. 2, lines 44-49 and 59-61. Clearly, no one would want the read head to be destroyed. Accordingly, applying the rule of *In re Geisler*, it is clear that Pinarbasi teaches away from using a compression layer *in a material way*. Thus, the rejection based on Pinarbasi violates the rule of *In re Geisler*.

Nor can it be said that the references would suggest the invention as a whole to those of ordinary skill at the time the invention was made, particularly where the

invention requires compression layers providing compressive stress to the sensor, the compression layers enhancing the AP pinning of the pinned layers of the AP pinned layer structure. Any assertion that the references suggest a structure having all of the claim limitations would be predicated on impermissible hindsight reconstruction based on Applicant's disclosure. The patent examination rules require that the content of the prior art is determined at the time the invention was made. The requirement "at the time the invention was made" is to avoid impermissible hindsight. Consider the following quote:

> "It is difficult but necessary that the decisionmaker forget what he or she has been taught . . . about the claimed invention and cast the mind back to the time the invention was made (often as here many years), to occupy the mind of one skilled in the art who is presented only with the references, and who is normally guided by the then-accepted wisdom in the art." *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303, 313 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984).

In the instant case, those skilled in the art at the time the present invention was made did not recognize the importance of the effect of a compression layer on an AP pinned layer structure for enhancing the AP pinning of the pinned layers of the AP pinned layer structure, as required by the claimed invention. It was this insight that helped the inventor conceive of the claimed invention which overcomes the deficiencies in the prior art. "Because that insight was contrary to the understandings and expectations of the art, the structure effectuating it would not have been obvious to those skilled in the art." *Schenck v. Nortron Corp.*, 713 F.2d at 785, 218 USPQ at 700 (citations omitted).

As evidence that Applicant's insight was contrary to the understandings and expectations of the art, the Examiner is directed to Pinarbasi col. 2, lines 59-61 and 64-65. As noted there, layers of high stress are identified as destroying entire read heads. Again, no one skilled in the art wants to risk destruction of the head.

As further evidence that Applicant's insight was contrary to the understandings and expectations of the art, Kanno notes that the conductor layers 23 are liable to extend

in the direction of the film plane due to repulsion against compression stress, which could result in separation of the conductor layer. *See* Kanno col. 5, lines 13-22.

Accordingly, per the rule of *Schenck*, *supra*, because Applicant's insight was contrary to the understandings and expectations of the art, the claimed structure effectuating it would not have been obvious to those skilled in the art.

Because the *Graham* test is not met, allowance of claims 9-11, 14-15, 23-25 and 27 is respectfully requested.

Rejoinder

Upon allowance of independent claims 1 and 16, rejoinder of all withdrawn claims depending therefrom is respectfully requested.

In the event a telephone conversation would expedite the prosecution of this application, the Examiner may reach the undersigned at (408) 971-2573. For payment of any additional fees due in connection with the filing of this paper, the Commissioner is authorized to charge such fees to Deposit Account No. 50-2587 (Order No. HSJ920030164US1).

Respectfully submitted,

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